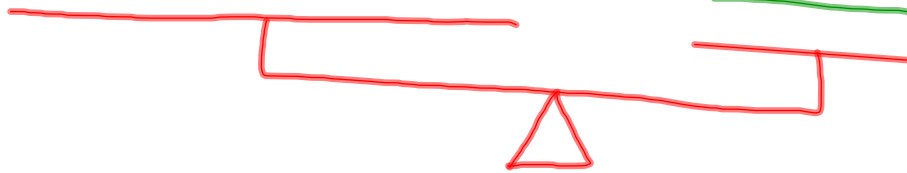


Law of Conservation of Mass

States that in a chemical reaction the total mass of the reactants is always equal to the total mass of the products.

Chemical Reaction

Reactant + Reactant \longrightarrow Product



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$\overset{2}{\text{H}}\overset{1}{\text{O}}$ 3 atoms in 1 molecule of water.

Atomic Mass of

H $1.01 \times 2 = 2$

O $16 \times 1 = 16$

1 molecule of water has an Atomic Mass = 18

Acetate $\overset{1}{\text{C}}\overset{3}{\text{H}}\overset{1}{\text{O}}\overset{1}{\text{O}}$

C $12 \times 1 = 12$

H $1 \times 3 = 3$

C $59 \times 1 = 59$

O $16 \times 1 = 16$

6 atoms for 1 molecule of acetate.

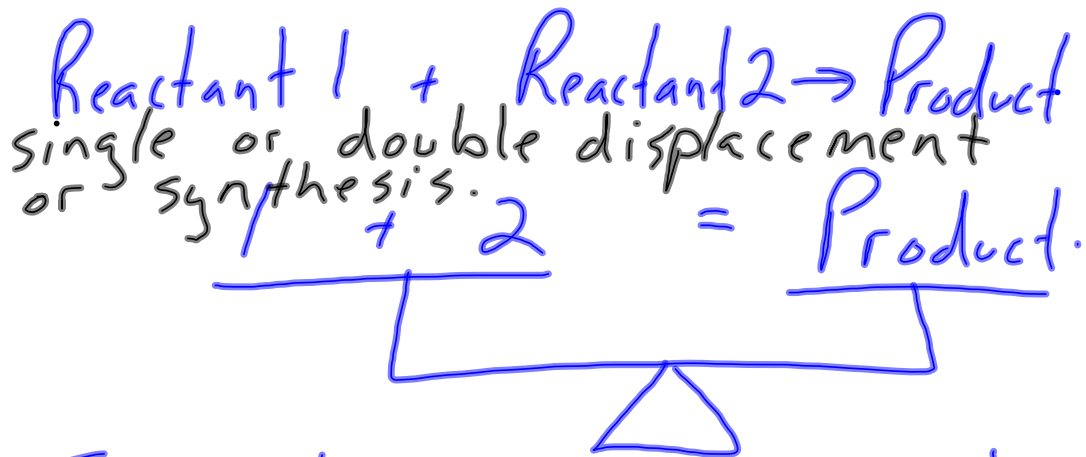
acetate ⁹⁰

CH_3COO

-1

$\begin{array}{r} + \\ \hline \end{array}$ 90 is the atomic mass of one molecule of acetate

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This is the Law of Conservation of Mass.

Next Step \rightarrow Balance Chemical Equation

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Find Atomic Mass for

1. $\overset{2}{K}_2\overset{1}{C}\overset{3}{O}_3$ - Potassium Carbonate

$$\begin{array}{l} K - 39 \times 2 = 78 \\ C - 12 \times 1 = 12 \\ O - 16 \times 3 = 48 \end{array} \quad + \quad = 138$$

2. $\overset{3}{Ca}_3(\overset{3}{P}\overset{8}{O}_4)_2$ Calcium Phosphate

$$\begin{array}{l} Ca - 40 \times 3 \\ P - 31 \times 2 \\ O - 16 \times 8 \end{array} \quad + \quad = 310$$

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Balancing Chemical Equations.

- ① Leave single molecules
ex O_2 till the end.
- ② Use fractions or decimals
ex: 3.5 but cannot have $\frac{1}{2}$ atoms
so balance by multiplying by
lowest whole #.

<http://www.youtube.com/watch?v=RnGu3xO2h74>

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